

Name: _____

Factoring – Quadratic Trinomials ($a \neq 1$) – Version 2

Directions: Please fully factor the following expressions.

1. $2x^2 - 11x - 21$

$2x$	5
$2x^2$	$3x$
$-14x$	-21

$(x-7)(2x+3)$

-42
 $1 -42$
 $2 -21$
 $3 -7$
 $6 -7$

2. $10x^2 + 31x + 3$

$10x$	1
$10x^2$	$1x$
$30x$	3

$(x+3)(10x+1)$

30
 $1 -30$
 $2 -15$
 $3 -10$
 $5 -6$

3. $12a^2 + 27a + 6$

$4a$	1
$12a^2$	$1a$
$8a$	6

$3(4a+1)(a+2)$

8
 $1 -8$
 $2 -4$

4. $12y^2 - 17y - 5$

$3y$	-5
$12y^2$	$-20y$
$4y$	-5

$(4y+1)(3y-5)$

-60
 $1 -60$
 $2 -30$
 $3 -20$
 $4 -15$
 $6 -10$

5. $14y^2 - 13y - 55$

$7y$	11
$14y^2$	$22y$
$-55y$	-55

$(7y+11)(2y-5)$

-770
 $1 -770$
 $2 -385$
 $5 -154$
 $7 -110$
 $11 -70$
 $14 -55$
 $22 -35$

6. $12y^2 + 59y + 55$

$3y$	11
$12y^2$	$44y$
$5y$	55

$(4y+5)(3y+11)$

660
 $1 -660$
 $2 -330$
 $3 -220$
 $4 -165$
 $5 -132$
 $6 -110$
 $10 -66$

7. $27h^2 + 42h - 5$

$9h$	5
$27h^2$	$45h$
$-3h$	-5

$(9h-1)(3h+5)$

-135
 $1 -135$
 $3 -45$
 $5 -27$
 $9 -15$

8. $24p^2 - 61p + 35$

$8p$	-7
$24p^2$	$-21p$
$-5p$	35

$(3p-5)(8p-7)$

840
 $1 -840$
 $2 -420$
 $3 -280$
 $4 -210$
 $5 -168$
 $6 -140$

9. $9x^2 + 71x + 56$

$9x$	7
$9x^2$	$63x$
$8x$	56

$(9x+8)(x+7)$

504
 $1 -504$
 $2 -252$
 $3 -168$
 $4 -126$
 $6 -84$
 $7 -72$
 $8 -63$
 $9 -56$

10. $3m^2 - 34m - 24$

$3m$	-12
$3m^2$	$-36m$
$2m$	-24

$(3m+2)(m-12)$

-72
 $1 -72$
 $2 -36$
 $3 -24$
 $4 -18$
 $6 -12$
 $8 -9$